

## **REMARKS**

Applicant respectfully requests reexamination, reconsideration and allowance of this application, including the rejection of claims 1-4, 14-16, 18, 20, 31, 32, 35, 36, and 41-43 rejected under 35 U.S.C. 102(e) and 35 U.S.C. 103(a), and of claims 5, 7-13, 17, 19, 21-25, 39 and 40 objected to as being dependent on rejected base claims. Applicant submits that the newly cited Dey et al. reference neither anticipates, teaches, suggests applicants claims nor provides any suggestion or motivation to one skilled in the art to alter or modify Dey et al. to obtain the method, fabrication process and method of bonding of applicant's claims.

### **Dey et al. does not disclose a 50% polyolefin composition**

The Examiner cites Dey et al. as disclosing an adhesive composition wherein a liquid polyolefin INDOPOL H100 is blended with a graft thermoplastic elastomer KRATON FG-901X and a tackifier ARKON P-90. As the Examiner recognizes, applicant's claims require that the polymerization product of at least one olefin without first pelletizing is present in an amount of at least 50% by weight based on the adhesive resin. The Examiner also recognizes that Dey et al. does not teach or suggest a composition wherein the polyolefin is at least 50% by weight of the composition. In fact, on a percentage by weight basis, the polyolefin in the Example 1, C1, cited by the Examiner, the polyolefin (INDOPOL H100) is present in only 22%, and "absent the presence of another polyolefinic non pelletizable polyolefin, the limitations of the claims would not be met." It is pointed out below that Dey et al. fails to teach or suggest the presence of additional non pelletizable polyolefin.

**ARKON P-90 is not a polyolefin or resembles one**

The Examiner notes that ARKON P-90, which Dey et al. at Column 8, lines 33-34, identifies as C9 hydrogenated hydrocarbon resin, is present at an amount (44%), such that the amount of polyolefin and tackifier (hydrogenated hydrocarbon resin) would be more than 50%, and

“as both ARKON and INDOPOL are used as tackifiers (column 4, lines 23-33) similar properties (i.e. both are assumed non pelletizable liquids) and therefore the ARKON alone is present in sufficient amounts to meet the limitations of the claims.”

(Office Action of August 29, 2005, last line of page 2-first 3 lines of page 3).

Applicant respectfully points out that ARKON hydrogenated hydrocarbon resin is not a polyolefin. Therefore, it is submitted that the presence of ARKON in Dey et al., even at 44%, or more than 50% as suggested by the Examiner, does not teach or suggest the process of applicant's claims in which the polymerized monomer of at least one olefin is present in the adhesive resin composition of at least 50%.

**ARKON P-90 is pelletized**

As the Examiner further noted on page 3 of the Action, “the examiner may be incorrect and ARKON may be pelleted.” In fact, applicant by inquiry to the manufacturer of ARKON P-90 is advised that ARKON P-90 is a colorless, transparent pellet, and Applicant obtained a sample of the composition to confirm this fact. Thus, in addition to ARKON P-90 (relied upon in the Action as raising the unpelletized “polyolefin” content to more than 50%), not being a polyolefin, ARKON P-90 is indeed pelletized. Therefore, it is submitted that Dey et al. does not provide the teaching or suggestion of all the

limitations of applicant's claims which would support the rejection under 35 U.S.C. 102(e) or of 103(a).

**Substitution of INDOPOL H100 for ARKON P-90 is not obvious or practical**

Substitution of INDOPOL H100 for ARKON P-90 is not obvious to one skilled in the art. These two products are very different in chemical composition and physical form. INDOPOL H100, according to advice from its manufacturer BP Amoco, as set forth in the Declaration submitted herewith, is a viscous, tacky liquid whose main application is for use in stretch film used for unitizing loads on pallets when blended into polyolefins, and typical concentrations are from 2-4%. A technical service representative at BP Amoco claimed that use at concentrations greater than 10% is very difficult, as noted in the Declaration. ARKON P-90 is in pellet form. It is respectfully submitted that in view of the difference in the structure and physical properties of the two compositions, i.e. one being a viscous, tacky polyolefin liquid and the other solid pellets of hydrogenated hydrocarbon resin, one skilled in the art would not be led to substitute the former for the latter nor expect their combination to perform in a similar manner.

**The use of amounts of INDOPOL H100 approaching 50% is not obvious**

The Office Action at page 3, lines 4-9 concludes:

However, to use INDOPOL at a level of greater than 50% as required by the claims would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention given that patentees teach the equivalence of ARKON and INDOPOL as tackifiers and use INDOPOL at such levels and in the expectation of adequate results absent any showing of surprising or unexpected results.

It is respectfully submitted that those familiar with INDOPOL H100 and ARKON P-90, and skilled in the art would not have considered substituting INDOPOL H100 for ARKON P-90 in Example 1 in Dey et al. because of difficulty in mixing, handling, and processing for the intended application.

To provide evidence of this assertion, as set forth in the Declaration submitted herewith, Mr. Michael Lloyd Opacich performed an experiment in which INDOPOL H100 was added to a mixture of polyolefins of the type described in Applicant's claims, and heated in a compounding device used to melt and mix the various components at the same temperature used in Dey et al., 170°C, and at a higher temperature, 210°C, for a period of five minutes that is considered to be excessive in the amount of time required to get good distributive mixing in a compounding device. The three components used in this study were INDOPOL H100, a grafted polymer of the type specified in Applicant's claims (PX2300 – a maleic anhydride grafted high density polyethylene produced by Equistar Chemicals), and a polyolefin (GA502-024 – a linear low density polyethylene produced by Equistar Chemicals). In this experiment two concentrations of INDOPOL H100 were compounded into the graft polymer and polyolefin resin at the following concentrations:

**Example A:**

INDOPOL H100 – 2g (10wt%)  
PX2300 – 6g (30wt%)  
GA502-024 – 12g (60wt%)

**Example B:**

INDOPOL H100 – 12.75g (51wt%)  
PX2300 – 7.5g (30wt%)  
GA502-024 – 4.75g (19wt%)

These concentrations were selected to demonstrate the difficulty in compounding INDOPOL H100 as the major component of a compound as described in Applicant's claims. The graft polymer concentration was selected to resemble the concentration of the grafted component in Dey et al. and stay within the range of Applicant's claims. The total weight of Example B (51% INDOPOL H100) was increased from 20 g to 25 g because the lower volume of solids in Example B was insufficient to be mixed by the mixing blades of the compounding device. The volume of Example A could not be increased to 25g because the size of the mixing device chamber could not hold that amount of resin. As Mr. Opacich notes, the experiment was optimized for both Examples A and B to provide the best conditions for successfully mixing the components.

The experiment set forth in the declaration demonstrates that the use of greater than 50% of INDOPOL H100 would not have been obvious or practical to a practitioner having an ordinary skill in the art at the time of the invention.

Therefore, Applicant respectfully suggests that Dey et al. would not guide or teach or motivate one to modify the composition disclosed in Dey et al. to produce a composition according to the method of Applicant's claims. The materials are very different in chemical composition and physical form.

### **CONCLUSION**

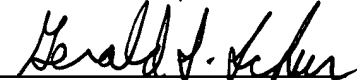
In view of the above remarks and the Declaration of Mr. Opacich submitted herewith, Applicant respectfully submits that it has been shown that ARKON P-90 cannot be substituted for INDOPOL H100, which is the basis for the rejections of his claims, due to the difference in chemical structure and physical properties of the

compositions, and that the use of INDOPOL H100 in amounts greater than 50% by weight is not practical or obvious. Applicant further respectfully submits that, as shown in the Declaration, adequate or useful results cannot be attained by increasing the amounts of INDOPOL H100 to more than 50% by weight, and therefore Applicant's claims are not obvious to one skilled in the art from Dey et al.

Applicant respectfully submits that his claims have been shown to be unanticipated and unobvious from the cited reference, that the claims are now allowable, and requests withdrawal of the rejections and allowance of the application.

Respectfully submitted,

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